RINGKASAN

KLASIFIKASI CT SCAN DADA MENGGUNAKAN METODE CONVOLUTIONAL NEURAL NETWORK (CNN) UNTUK IDENTIFIKASI POTENSI COVID-19

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Corona virus Disease 2019 (COVID-19) merupakan penyakit pernafasan akut yang disebabkan oleh virus corona jenis baru dan dapat menular dengan cepat melalui droplet. Penyakit ini memiliki gejala umum antara lain gejala gangguan pernapasan akut seperti demam, batuk, dan sesak napas. COVID-19 pertama ditemukan pada Desember 2019, di Wuhan, China.

Hingga saat ini proses untuk mendiagnosa dan konfirmasi *COVID-19* bergantung pada *real-time reverse-transcription–polymerase-chain-reaction* (RT-PCR) yang mendeteksi keberadaan *SARS-CoV-2*.[1] Selain konfirmasi hasil *RT-PCR*, elemen diagnostik utama lainnya yang dapat memfasilitasi identifikasi *COVID-19* adalah citra tomografi komputasi dada *(CT-Scan).*

Berdasarkan hal ini penulis ingin merancang sistem klasifikasi *CT Scan* untuk *COVID-19* berdasarkan citra dengan menggunakan metode convolutional neural network. Ada beberapa arsitektur CNN yang digunakan seperti *VGG16*, *MobileNet*, dan *ResNet*, kemudian penulis akan membandingkan hasil dari masing-masing arsitektur yang digunakan.

Kata kunci : *COVID-19, real-time reverse-transcription–polymerase-chain-reaction,CT Scan, CNN*

SUMMARY

CLASSIFICATION OF CHEST CT SCAN USES THE CONVOLUTIONAL NEURAL NETWORK (CNN) METHOD TO IDENTIFY POTENTIAL COVID-19

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Coronavirus Disease 2019 (COVID-19) is an acute respiratory disease caused by a new type of coronavirus and can be transmitted quickly through droplets. This disease has common symptoms including acute respiratory symptoms such as fever, cough and shortness of breath. The first COVID-19 was discovered in December 2019, in Wuhan, China.

Until now the process to diagnose and confirm COVID-19 has relied on real-time reverse-transcription-polymerase-chain-reaction (RT-PCR) that detects the presence of SARS-CoV-2. [2] Apart from confirming RT-PCR results, another key diagnostic element that can facilitate identification of COVID-19 is a computed tomography image of the chest (CT-Scan).

Based on this, the writer wants to design a CT Scan classification system for COVID-19 based on images using the convolutional neural network method. There are several CNN architectures used such as VGG16, MobileNet, and ResNet, then the author will compare the results of each architecture used.

Keywords : COVID-19, real-time reverse-transcription–polymerase-chain-reaction,CT Scan, CNN